

Title: MATERIALS AND METHODS RELATING TO  
THERAPY AND DIAGNOSIS USING TARGETING OF CELLS  
THAT EXPRESS JPL POLYPEPTIDES

Applicants: Peter C.R. Emtage et al.

Docket No.: NUVO-05

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GCCCCCAGCAGGCTCTCCAGTCCCAGGATGCCTGAGCCGCCGGGGCTGAGGCCGCCAACTACATG  
CATGTCCCCCGGGGCAAGTCGACTTGACGACGGGGCTGCTACGTGGGGCTGGGAGGCCGG  
GCACATGGCTACGGCGTGTGACGGGCCGGCAGGGCAGTACAGCGGCTGCTGGCACACGGCT  
TCGAGTCACTGGCGTCTTCACGGGCCGGACAGCTACCGGGCACTGGCAGCAGGGCAAGCG  
CGAAGGGCTGGCGTGGAGCCAAGAGCCGCTGGACGTACCAGGGCACTGGCAGCAGGGCAAGCG  
CGCAGCGCGTGTGGAAAGCGTGTCCGGCCTGCCTACGCCGGCTTGAAGGACGGTTTCAGGACG  
GCTACGGCACTGAGACCTACTCCGACGGAGGCACCTACCAGGGCAGTGGCAGGCCGGAAAGGCCACGG  
CTACGGGTACGCCAGAGTGTGCCCTACCATCAGGCCGGCTGCTGCCCTGCCGGCACCTCCCTG  
GATTCCGCCACAGCGACCCCCCGACGCCACCCCGCCCTGCCCTTGCCGGCGACGAGGGAGGCAGCC  
CCGCCCTGGGCTCCCGGGGCGCTCGTGTGGCCGGGCCGGGACGCCACGGCGCTCGTCCCGAAA  
GCGCACTCCGGCGCCGGGATTCTTCGCCGTTCGCTGCTGCTCAGCGGGCTCCGAGCGGGCGGACGT  
CGCAGCTCCCTGGCAGCAAGCGAGGCTCCCTGCCAGCGAGGTGAGCAGCGAGGGGGCAGCACCGGAC  
CGCCCGGCTCGGAGGCCAGCGGGCCCGGCCAGCGCCGCCCTATCGAGGGCTCGGCCACAGA  
GGTGTACGCCGGCAGTGGCGCAGATCGGCCAGCGGCTTCGGCGTCAAGCCAGGCTCCAACGGGCTG  
CGCTACGAGGGCGAGTGGCTGGCAACCGCGCACGGCTACGGCGCACCACCCGCCCGACGGCTCC  
CGAGGAGGGCAAGTACAAGCGAACCGGCTGGTGCAACGGCGCGTCCGAGTCTCCTGCTCTGGC  
CCTTCGGCGGGCAAGGTTAAGGAGAACGGTGGACAGGGCTGAGGGGCCGTCGAGCCGTGAGTGCT  
GCCCGTCAAGGCCAGGAGATGCCGCTGCCAGGGCAGCACGCCCTCAAAGGCAGTGGCAGCCAGCA  
GTGTGCGTGAGAACGGCGTGGAGGCAGCTCGAATGCCAAACTGATAGGCCAGGACTGCAGCCCATGCT  
AGAGGCCCAAGGCCGAGACCCAGGCAGGACTCAGAACGGTCCGACACGGAGGCCCTGGATGAGGACAGC  
CCTGGGTATATGAGAACGGACTGACCCCTCAGAGGGATCCCTGAACCTGCCAGCAGTCTGCCCT  
CCGCCAACCTGGCACCCCTGCCCTGCCGGAGCCACTGCCCTGGAGGGACAGGGCTCTTC  
CAGCCCCAAAGCTTGGCTGAGGAGTGGGGGGGGCAGGCGCACAGGCAGAGGAACCTGGCTATGAG  
GCTGAGGATGAGGCTGGATGCAAGGGCCAGGGCCAGAGACGGTCCCCACTCCTGGAGGCTGCAGCG  
ACAGTTAGGAAGTCTCGAGAGGAGGGAGGAGGATGAAGAGGCCCTGCCCTGGAGGGCCAGC  
AGGCACGGAGCCTGAGCCCAGGCCATGCCATGCTGGCTTGAGGGGCTCGTCTCGAGGGCTCTGATGCTGG  
TGCCTGACAGAACAGCTGGGAGGCCGCTGCAACCGAGAGGCCCTGCCAGCCGGAGCTGCCAACCCCC  
TGGTGGGGAGCCGTGGCCCTCTGGACCTCAGCCTGGCATTCTGTCTCCAGCTCCTCACCTGAGG  
CTACTTCTGGCTGGTTCTGGTTTGCTGCTGCTCTTACCCCTTGACCTGCCCTTTTCTCTTC  
TCCTCTTCTGGCTGTGTTTCTCTTATCTTCTTCTCTTCTCTTCTCTTCTCTGCTCTTCTCT  
TTTCTCTCGCTTTTCTTCCCTGTCTTCTCTTCAAGATTATCTCATTCTCTGGATCTGTCTGTATT  
CCTCACTCCCTCCCCATCCCAACCCCTTCTTAGATTGTTACATATGAAGGGCTTTCTCTCT  
AGAGTTGCTGTCTCTGAGACACACAATCTAAGTCAGACATTGCTCCACGCCCTCCACCTTTCT  
TTAGACCTCAACTCGCTGCCGGTGGGGTTGGTGTCTAACGGAGACTCTGGTAAGCTGAATGGAGAGG  
AGGAAGAAAATGAAGAAGGAGTATTGAATGTCGGCAAGGCAGTGGCTGAGCTGCTGTGGCTCCCTAGC  
CTAAGGGCCCTGCTGCCCTCTGAGGCCCTAGTGAAAAAGCTGCCAGGAGGTGCATCCTCACCTCTAATCT  
TGGAGGCTATTATCTTACCTCAAGCACTGAGCTGGTTACTGCCAATTCCATCCTCCCTGAAGGAGA  
GAAGGGAAAGTGAAGAAGTAGACTCCCAAGCATTCCCTCTTCTCTCATGCCAGGCCCTCC  
CCAGCCCCCTGGTGGCATGCCATGCCAGAGCAACGTGTAAAGGAACAGAGAAATATCCAATGCAGTCA  
AGTCCACCCCTGCCAGACTTGCCACTGACTTCTCCACCCCTCTGTCTCCCCATAATAGTTATTGG  
TTGGCTGGACTCACTTGTGGCTTGATTAATTCTAAGGGGCCCTGAAGAAGACATTCTACTGCAGA  
GGGTTAGAGGCACCTGAGCAAGGCCCCACATCCCAACTCTGGAGTTGTGGTGGAGGAGGCACCTCTG  
GGGGATAGGACCAGACAAGATAACAGGAGCTCACATGGAAGCAGAAGCTGTGACAAGTTAGTAGTCCCA  
AAATGGGTTATATCCCTCCCTCGGCCGAATTCTGGCTCGAGGGCAAAT

FIGURE 1

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MSPGGKFDFDDGGCYVGGWEAGRAHGYGVCTGPGAQGEYSGCWAHGFESL	50
GVFTGPGGHSYQGHWQQGKREGLGVERKSRTYRGEWLGGLKGRSGWES	100
VSGLRYAGLWKDGFDQDGYTETYSDDGTYQGQWQAGKRHGYGVRQSVPYH	150
QAALLRSPRRTSLDSGHSDPPTPPPLPLPGDEGGSPASGSRGFVLAGP	200
GDADGASSRKRTPAAGGFFRRSLLSGLRAGGRSSLGSKRGSRLSEVSS	250
EVGSTGPPGSEASGPPAAPPALIEGSATEVYAGEWRADRRSGFGVSQRS	300
NGLRYEGEWLGNRRHGYGRTRPDGSREEGKYKRNRLVHGGRVRSLLPLA	350
LRRGKVKEKVDRAVEGARRAVSAARQRQEIAARAADALLKAVAASSVAE	400
KAVEAARMAKLIAQDLQPMLEAPGRRPRQDSEGSDTPELDDEDSPGVYENG	450
LTPSEGSPELPSSPASSRQPWRPPACRSPLPPGGDQGPFPSSPKAWPEEWG	500
GAGAQAEELAGYEAEDEAGMQGPGPRDGSPLLGGCSDSSGSLREEEGEDE	550
EPLPPLRAPAGTEPEPIAMLVLRGSSSRGPDAGCLTEELGEPAATERPAQ	600
PGAANPLVVGAVALLDLSLAFLFSQLLT	629

**FIGURE 2**

**Title: MATERIALS AND METHODS RELATING TO  
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JP-3 MSGGRFNFDDGGSYCGGWEDGKAHGHVCTGPKGQGEYTGSWSHGFLEVGVYTWSGNTYQGTWAQGKRG 72  
 JP-1 -MTGGRFDFFDDGGTYCGGWEEGKAHGHICTGPKGQGEYSGSWSHGFEVVGGYTWSGNTYQGYWAQGKRG 71  
 JP-2 -MSGGRFDFFDDGGAYCGGWEGGKAHGLCTGPKGQGEYSGSWNFGFEVAGVYTWSGNTFEGYWSQGKRG 71  
 JPL MSPGGKFDFDDGGCYVGGWEAGRAHGYGVCTGPGAQGEYSGCWAHGFESLGVTGPAGHSYQGHWQQGKREG 72  
 :\*\*\*\*:\*\*\*\*\* \* \*\*\*\*:\*\*\*\*\* .\*\*\*\*\*:\*. \*\*\* \* :\* \*.::: \* \* \*\*\*\*:.\*  
 JP-3 IGLESKGKWYKGEWTHGFKGRYGVRECANGAKYEGTWSNGLQDGYGTETYSDGGTYQGQWVGGMRQGYGV 144  
 JP-1 LGVETKGKWMYRGEWSHGFKGRYGVRSQSLCTPARYEGTWSNGLQDGYGVETYGDGGTYQGQWAGGMRHGYGV 143  
 JP-2 LGIETKGRWLKYGEWTHGFKGRYGIQSSSSAKYEGTWNNGLQDGYGTETYADGGTYQGQFTNGMRHGYGV 143  
 JPL LGVERKSRWTYRGEWLGLKGRSGVWESVS-GLRYAGLWKDGFQDGYGTETYSDGGTYQGQWQAGKRHGYGV 143  
 :\*:\*.::: \*:\*\*\*\*:\*\*\*\*\*: . :\* \* .:\*\*\*\*\*.\*\*\*.\*\*\*\*\*: \* :\*\*\*\*:  
 JP-3 RQSVPYGMAAVIRSPRLTSINSLRSEHTNGTPLHP-DASPAVDG---SPAVSRGGFVLAHSDEILK--- 208  
 JP-1 RQSVPYGMATVIRSPRLTSASLRSEQNSGVLH--DAAAAD---SPAGTRGGFVLFNHADAELAG--- 205  
 JP-2 RQSVPYGMAVVVRSPRLTSLSSLRSEHSNGTVAPDSPASPASDGPAIPSPSPAIPRGGFALSLANAEAAAR-- 213  
 JPL RQSVPYHQALLRSPRTSLDSG--HSDPPPPPPLPLPDEGGS--PASGSRGGFVLAGPGDADGASSRK 210  
 \*\*\*\*\*. \*.:\*\*\*\*: \* : : : . . . : .. .:\*\*\*\*.\* .: .:  
 JP-3 --SKKKGLFRR-SLLSGLKLRKSESKSSLASQRSKQSSFRSEAGMSTSASDIHSTISLGEAEA--ELA 274  
 JP-1 --KKKGLFRRGSLLGSMKLRKSESKSISSKRS--SVRSDAAMSRISS--SDANSTISFGDVDC--DFC 267  
 JP-2 -APKGGLFQRGALLG--KLRAAESRTSVGSQRS----RVSFLKSDLSSGASDAASTASLGEAAEAGADEAA 277  
 JPL RTPAAGGFFRRSLLLSG--LRAGGRSSLGSKRG-----SLREVSS--EVGSTGPPGEASGP-PAA 268  
 \*;\*: \* \*\* . \*\* . :\*:\*. \*: \* :\*\* : \*\* . \*.  
 JP-3 VIEDDIDATTETVGEWKNDRSGFGVSQRSDGLKYEGEWASNRRHGYGCMTFPDGTKEEGKYKQNIVGG 346  
 JP-1 PVEDHVDATTETYMGEWKNDRNGFGVSERSNGMKYEGEWANNKRHGYGCTVPDGSKEEGKYKNNILVRG 339  
 JP-2 PFEADIDATTETYMGEWKNDRSGFGVSERSSGLRYEGEWLDNLRLHGYGCTTLPDGHREEGKYRHNVLVKD 349  
 JPL APPALIEGSATEVYAGEWRADRRSGFGVSQRSGNLRYEWEGLGNRRHGYGRTTRPDGSREEGKYKRNRNLVHG 340  
 :::::\*\*\*\*: \* \*\*: \*:\*\*\*\*:\*\*\*\*: .:\*\*\*\*\* . \* \*\*\*\*:\*\*\*\*\*:.\* \*\* .  
 JP-3 KR-KNLIPI-LRASKIREKVDRAVEAAERAATIAKQKAEIAASRTSHSRAKAEAAALTAAQKAQEEARIARIT 415  
 JP-1 IR-KQLIP--IRHTKTREKVDRDRAIEGAQRAAMARTKVEIANSRTAHARAKADAADQAALALARQECDIARAV 408  
 JP-2 TK-RRMLQ--LKSNKVRQKVEHSVEGAQRAAAATARQKAEIAASRTSHAKAKAEAAEQAAALANQESNIARTL 418  
 JPL GRVRSLLPLALRRGKVKEKVDRAVEGARRASAARQRQEIAAARAADALLKAVAASSVAEKAVEAARMAKLI 468  
 : : : : \* :\*\*\*\*: :\*\*\*\*: .:\*\*\*\*\* . \* \*\*\*\*:\*\*\*\*\*:.\* \*\* .  
 JP-3 AKEFSPSFQHRENGLEYQRPKROTSCDDIEVLSTGTPLQ---QESPPLYRKGTTPSDLTPDDSPLOQSFPTS 483  
 JP-1 ARELSPDFYQP--GPDYVKQRFQEGVDAKENPEEKVPEKPPTPKESPHFYRKGTTP-PRSPPEASPKHSH--S 475  
 JP-2 ARELAPDFYQP--GPEYQKRRLLQEILENSESLLEPPDRGAGAAGLPQPPRESPQLHERETPRPEGGSP--S 486  
 JPL AQDLQPMLEAP----GRRPR----QDSEGSDTEPLDE----DSPGVYENGLTPSEGSPELPSSPAS-SR 468  
 \*: : \* : : : . . . \* . . . : .  
 JP-3 PAATPPPAPAARNKVAHFSRQSVDEERGGDIQMLLEGAGDCARSSWGEEQAGGSRGVRSGALRGGLLVDD 555  
 JP-1 PASSPKPLKKQ-----NPSSG-----ARLNQDKRSVADEQVT-----AIVNK 512  
 JP-2 PAGTPPQPKRP-----RPGVS-----KDGLLSPGAWNGEPSG--E-----GSRSV 524  
 JPL QPWRPPACRSP-----LPPGG-----DQGPFSSPKAWPEEWGG-----501  
 \* . : : : : : :  
 JP-3 FRTRGSGRKQPGNPKPRERRTESPPVFTWTSRHRSNHSPGGSRLLELQEEKLNSYRMEMKPLLR-METHPQ 626  
 JP-1 PLMSKAPTKEAGAVVPSQS-----YSGRHHIPNPSNG----ELHSQYHGYVNLNAP----QHPPV 565  
 JP-2 TPSEGAGRSPARPARTERMA-----IEALQAPPAPSREPE--VALYQGYHSYAVRTTPEPPPFEDQPE 586  
 JPL ---AGAQAEELAGYEAEDE-----AGMQGPGPRDG-----SP-----LLG 533  
 : . . . . \* .  
 JP-3 KRRYSKGACRGLGDDHRPEDRGFGVQRLRSAQNKENFRPASSAEPAVQKLASRLGGAEPRLLRWDLTFS 698  
 JP-1 DVEDGDGSSQSSSALVHKPSANKWPSKSVTKPVAKE----SKAEPKAKKSE-----LA 615  
 JP-2 PEVSGSESAPSSPATAPLQAPTLRGPEPARETPAKLEPKPIIPKAEPRAKARKTEARG-----LT 646  
 JPL GCSDSSGSLREEEGEDEEPLPPLRAPAGTEPEPIAMVLRGSSSRGPDAGCLT-----SP-----LLG 586  
 \* . . . .  
 JP-3 PPQKSLPVALESDEENGDELKSSTGSA-PILVVMVILLNIGVAILFINFFI 748  
 JP-1 IPKN----PASNDSCPALEKEANSGPN-SIMIVLVMLLNIGLAILFVHFLT 661  
 JP-2 KAGAKKKARKEAALAAEAEVEVEVPN-TILICMVILLNIGLAILFVHLLT 696  
 JPL ---E-----E-LGEPAATERPAQPGAANPLVVGAVALLDSLAFLFSQLLT 628

**FIGURE 3**

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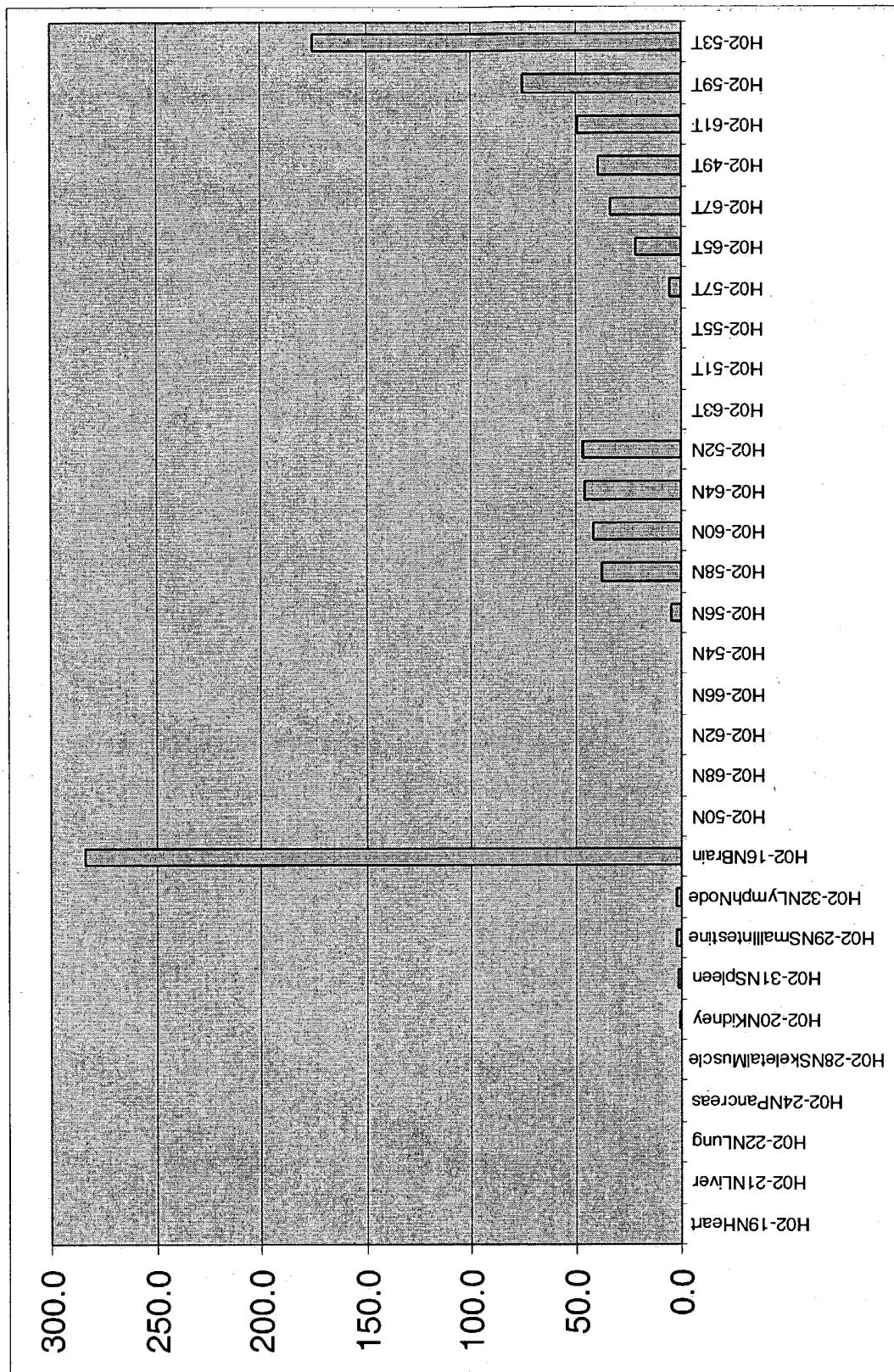


FIGURE 4